FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Corpus Christi Liquefaction, LLC

AUTHORIZING THE OPERATION OF
Corpus Christi Liquefaction
Gas Production and Distribution

LOCATED AT
San Patricio County, Texas
Latitude 27° 52' 59" Longitude 97° 16' 9"
Regulated Entity Number: RN104104716

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O3580 Issuance Date: July 29, 2015

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

    C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

E. Emission units subject to 40 CFR Part 63, Subparts EEEE, YYYY & ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.880, § 113.1080 and § 113.1090 which incorporate the 40 CFR Part 63 Subpart by reference.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: "Storage of Volatile Organic Compounds," the permit holder shall comply with the requirements of 30 TAC § 115.112(c)(1).

5. Permit holder shall comply with the following 30 TAC Chapter 115, Subchapter C requirements:

   A. When filling stationary gasoline storage containers with a nominal capacity less than or equal to 1,000 gallons at a Stage I motor vehicle fuel dispensing facility, the permit holder shall comply with the following requirements specified in 30 TAC Chapter 115, Subchapter C:

      (i) Title 30 TAC § 115.222(3) (relating to Control Requirements), as it applies to liquid gasoline leaks, visible vapors, or significant odors

      (ii) Title 30 TAC § 115.222(6) (relating to Control Requirements)

      (iii) Title 30 TAC § 115.224(1) (relating to Inspection Requirements), as it applies to liquid gasoline leaks, visible vapors, or significant odors

6. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

   A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

   B. Title 40 CFR § 60.8 (relating to Performance Tests)

   C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

   D. Title 40 CFR § 60.12 (relating to Circumvention)

   E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

   F. Title 40 CFR § 60.14 (relating to Modification)

   G. Title 40 CFR § 60.15 (relating to Reconstruction)

   H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

7. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

Additional Monitoring Requirements

8. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in

particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

9. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

    A. Are incorporated by reference into this permit as applicable requirements

    B. Shall be located with this operating permit

    C. Are not eligible for a permit shield

10. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

11. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

12. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

13. Use of Discrete Emission Credits to comply with the applicable requirements:

    A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Protection of Stratospheric Ozone

14. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:

A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

Permit Location

15. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

16. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until

notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Note: A "none" entry may be noted for some emission sources in this permit's "Applicable Requirements Summary" under the heading of "Monitoring and Testing Requirements" and/or "Recordkeeping Requirements" and/or "Reporting Requirements." Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPAGRU	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	AGRU1, AGRU2, AGRU3	R5121-1	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
GRPFWPUMP	SRIC ENGINES	FWPUMP1, FWPUMP2, FWPUMP3	60IIII-2	40 CFR Part 60, Subpart IIII	No changing attributes.
GRPFWPUMP	SRIC ENGINES	FWPUMP1, FWPUMP2, FWPUMP3	63ZZZZ-2	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRPGEN1-4	SRIC ENGINES	GEN1, GEN2, GEN3, GEN4	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
GRPGEN1-4	SRIC ENGINES	GEN1, GEN2, GEN3, GEN4	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRPHPFUEL	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	HPFUEL1, HPFUEL2, HPFUEL3	R5121-2	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
GRPLPFUEL	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	LPFUEL1, LPFUEL2, LPFUEL3	R5121-2	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
GRPTRB1-18	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	TRB1, TRB10, TRB11, TRB12, TRB13, TRB14, TRB15, TRB16, TRB17, TRB18, TRB2, TRB3, TRB4, TRB5, TRB6, TRB7, TRB8, TRB9	R1111-2	30 TAC Chapter 111, Visible Emissions	No changing attributes.
GRPTRB1-18	STATIONARY TURBINES	TRB1, TRB10, TRB11, TRB12,	60KKKK-1	40 CFR Part 60, Subpart KKKK	Fuel Quality = Fuel is demonstrated not to exceed

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
		TRB13, TRB14, TRB15, TRB16, TRB17, TRB18, TRB2, TRB3, TRB4, TRB5, TRB6, TRB7, TRB8, TRB9			emission standard by representative fuel sampling data.
GRPTRB1-18	STATIONARY TURBINES	TRB1, TRB10, TRB11, TRB12, TRB13, TRB14, TRB15, TRB16, TRB17, TRB18, TRB2, TRB3, TRB4, TRB5, TRB6, TRB7, TRB8, TRB9	60KKKK-2	40 CFR Part 60, Subpart KKKK	Fuel Quality = Fuel is demonstrated not to exceed emission standard by characteristics in purchase contract or tariff sheet.
GRPTRB1-18	STATIONARY TURBINES	TRB1, TRB10, TRB11, TRB12, TRB13, TRB14, TRB15, TRB16, TRB17, TRB18, TRB2, TRB3, TRB4, TRB5, TRB6, TRB7, TRB8, TRB9	63YYYY-1	40 CFR Part 63, Subpart YYYY	No changing attributes.
GRPWTDRFLR	FLARES	WTDYFLR1, WTDYFLR2	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
IFRTK1	STORAGE TANKS/VESSELS	N/A	60Kb-1	40 CFR Part 60, Subpart Kb	No changing attributes.
IFRTK1	STORAGE TANKS/VESSELS	N/A	63EEEE-1	40 CFR Part 63, Subpart EEEE	No changing attributes.
MRNFLR	FLARES	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
TRKLOAD	LOADING/UNLOADING OPERATIONS	N/A	R5212-1	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPAGRU	EP	R5121-1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(c)(1)(C) § 115.127(c)(1)	A vent gas stream having a concentration of the VOC specified in § 115.121(c)(1)(B) and (C) less than 30,000 ppmv is exempt from § 115.121(c)(1).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
GRPFWPUMP	EU	60IIII-2	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GRPFWPUMP	EU	60IIII-2	NMHC and NO_x	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 75	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 89.112(a)	KW and less than or equal to 560 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NOx emission limit of 4.0 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).			
GRPFWPUMP	EU	60IIII-2	PM (OPACITY)	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.113(a)(1) § 89.113(a)(2) § 89.113(a)(3)	Emergency stationary CI ICE, that are not fire pump engines, with displacement < 10 lpc and not constant-speed engines, with max engine power < 2237 KW and a 2007 model year and later or max engine power > 2237 KW and a 2011 model year and later, must comply with following opacity emission limits: 20% during acceleration, 15% during lugging, 50% during peaks in either acceleration or lugging modes as stated in §60.4202(a)(1)-(2),	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						(b)(2) and §89.113(a)(1)-(3) and §1039.105(b)(1)-(3).			
GRPFWPUMP	EU	60IIII-2	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GRPFWPUMP	EU	63ZZZZ-2	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.			
GRPGEN1-4	EU	60IIII-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GRPGEN1-4	EU	60IIII-1	NMHC and NO_x	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206	Owners and operators of emergency stationary	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NOx emission limit of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).			
GRPGEN1-4	EU	60IIII-1	PM (OPACITY)	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.113(a)(1) § 89.113(a)(2) § 89.113(a)(3)	Emergency stationary CI ICE, that are not fire pump engines, with displacement < 10 lpc and not constant-speed engines, with max engine power < 2237 KW and a 2007 model year and later or max engine power > 2237 KW and a 2011 model year and later, must comply with following opacity emission limits: 20% during acceleration, 15% during lugging, 50%	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						during peaks in either acceleration or lugging modes as stated in §60.4202(a)(1)-(2), (b)(2) and §89.113(a)(1)-(3) and §1039.105(b)(1)-(3).			
GRPGEN1-4	EU	60IIII-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
GRPGEN1-4	EU	63ZZZZ-1	EXEMPT	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) [G]§ 63.6640(f)(2) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the	None	None	§ 63.6645(c) § 63.6645(f)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).			
GRPHPFUEL	EP	R5121-2	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(c)(1)(B) § 115.127(c)(1)	A vent gas stream with a combined weight of the VOC or classes of compounds specified in § 115.121(c)(1)(B)-(C) of 100 lbs (45.4 kg), or less, in a continuous 24-hour period is exempt from § 115.121(c)(1).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
GRPLPFUEL	EP	R5121-2	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(c)(1)(B) § 115.127(c)(1)	A vent gas stream with a combined weight of the VOC or classes of compounds specified in § 115.121(c)(1)(B)-(C) of 100 lbs (45.4 kg), or less, in a continuous 24-hour period is exempt from § 115.121(c)(1).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
GRPTRB1-18	EP	R1111-2	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						total flow rate of at least 100,000 acfm unless a CEMS is installed.			
GRPTRB1-18	EU	60KKKK-1	NO_x	40 CFR Part 60, Subpart KKKK	§ 60.4320(a)-Table 1 § 60.4320(a) § 60.4333(a)	New turbine firing natural gas with a heat input at peak load greater than 50 MMBtu/h and less than or equal to 850 MMBtu/h must meet the nitrogen oxides emission standard of 150 ng/J of useful output (1.2 lb/MWh).	§ 60.4340(a) [G]§ 60.4400(a) § 60.4400(b) § 60.4400(b)(4) § 60.4400(b)(6)	None	§ 60.4375(b)
GRPTRB1-18	EU	60KKKK-1	SO_2	40 CFR Part 60, Subpart KKKK	§ 60.4330(a)(2) § 60.4333(a)	You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO2/J (0.060 lb SO2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.	§ 60.4365 § 60.4365(b) § 60.4415(a) § 60.4415(a)(1) § 60.4415(a)(1)(ii)	§ 60.4365(b)	None
GRPTRB1-18	EU	60KKKK-2	NO_x	40 CFR Part 60, Subpart KKKK	§ 60.4320(a)-Table 1 § 60.4320(a) § 60.4333(a)	New turbine firing natural gas with a heat input at peak load greater than 50 MMBtu/h and less than or equal to 850	§ 60.4340(a) [G]§ 60.4400(a) § 60.4400(b) § 60.4400(b)(4) § 60.4400(b)(6)	None	§ 60.4375(b)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						MMBtu/h must meet the nitrogen oxides emission standard of 150 ng/J of useful output (1.2 lb/MWh).			
GRPTRB1-18	EU	60KKKK-2	SO_2	40 CFR Part 60, Subpart KKKK	§ 60.4330(a)(2) § 60.4333(a)	You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO2/J (0.060 lb SO2/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.	§ 60.4365 § 60.4365(a) § 60.4415(a) § 60.4415(a)(1) § 60.4415(a)(1)(ii)	§ 60.4365(a)	None
GRPTRB1-18	EU	63YYYY-1	112(B) HAPS	40 CFR Part 63, Subpart YYYY	§ 63.6095(d)	If you start up a new or reconstructed stationary combustion turbine that is a lean premix gas-fired stationary combustion turbine or diffusion flame gas-fired stationary combustion turbine as defined by this subpart, you must comply with the Initial Notification requirements set forth in §63.6145 but	None	None	§ 63.6145(a) § 63.6145(b) § 63.6145(c) § 63.6145(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						need not comply with any other requirement of this subpart until EPA takes final action to require compliance.			
GRPWTDRFLR	EU	R1111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for emission event emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
IFRTK1	EU	60Kb-1	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(A) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) § 60.113b(a)(2) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(2) § 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(3)
IFRTK1	EU	63EEEE-1	112(B) HAPS	40 CFR Part 63, Subpart EEEE	§ 63.2396(a) The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63,	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart EEEE	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart EEEE	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart EEEE	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart EEEE

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					Subpart EEEE				
MRNFLR	EU	R1111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for emission event emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
TRKLOAD	EU	R5212-1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(b)(4) § 115.214(b)(1)(B) § 115.214(b)(1)(D) § 115.214(b)(1)(D)(i)	Crude oil, condensate, and liquefied petroleum gas. All loading and unloading of crude oil, condensate, and liquefied petroleum gas is exempt from division, except for the specified requirements.	§ 115.214(b)(1)(A) § 115.214(b)(1)(A)(i)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(ii) § 115.216(3)(B)	None

Additional Monitoring Requirements

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: GRPTRB1-18	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-2
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Fuel Type	
Minimum Frequency: Annually or at any time an alternate fuel is used	
Averaging Period: n/a	
Deviation Limit: It is a deviation if alternate fuel is fired, either alone or in combination with the specified gas, for a period > or = 24 consecutive hours or conduct an observation of the vent for each such period to determine if visible emissions are observed.	
Periodic Monitoring Text: Record the type of fuel used by the unit. If an alternate fuel is fired, either alone or in combination with the specified gas, for a period greater than or equal to 24 consecutive hours it shall be considered and reported as a deviation or the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are observed. Any time an alternate fuel is fired for a period of greater than 7 consecutive days then visible emissions observations will be conducted no less than once per week. Documentation of all observations shall be maintained. If visible emissions are present during the firing of an alternate fuel, the permit holder shall either list this occurrence as a deviation or the permit holder may determine the opacity consistent with Test Method 9. Any opacity readings that are above the opacity limit from the underlying applicable requirement shall be reported as a deviation.	

Permit Shield

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
AMNTK1	N/A	30 TAC Chapter 115, Storage of VOCs	VOC stored has a true vapor pressure less than 1.5 psia.
AMNTK1	N/A	40 CFR Part 60, Subpart Kb	Tank has a capacity between 75 m3 and 151 m3 and is storing a liquid with a maximum true vapor pressure less than 15.0 Kpa.
CONSTCOL	N/A	40 CFR Part 60, Subpart NNN	The column does not produce any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate.
FUG	N/A	40 CFR Part 60, Subpart KKK	The facility is not an onshore natural gas processing plant.
GRPDSLGAS	DSLTK1, DSLTK2, DSLTK3, DSLTK4, FWPTK1, FWPTK2, FWPTK3, GDFTK1, GDFTK2	30 TAC Chapter 115, Storage of VOCs	Tank capacity is less than 1,000 gallons.
GRPDSLGAS	DSLTK1, DSLTK2, DSLTK3, DSLTK4, FWPTK1, FWPTK2, FWPTK3, GDFTK1, GDFTK2	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 m3.
GRPWTDRFLR	WTDYFLR1, WTDYFLR2	40 CFR Part 60, Subpart A	The flare is not used to comply with applicable subparts of parts 60 or 61.
GRPWTDRFLR	WTDYFLR1, WTDYFLR2	40 CFR Part 63, Subpart A	The flare is not used to comply with applicable subparts of Part 63.
IFRTK1	N/A	30 TAC Chapter 115, Storage of VOCs	Storage vessel stores crude oil or condensate and has a nominal capacity less than 420,000 gallons.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
LNGLOAD	N/A	30 TAC Chapter 115, Loading and Unloading of VOC	The loading and unloading facility is a marine terminal in a covered attainment area.
LNGLOAD	N/A	40 CFR Part 63, Subpart Y	The material that is loaded contains organic HAPs as impurities only.
MRNFLR	N/A	40 CFR Part 60, Subpart A	The flare is not used to comply with applicable subparts of Parts 60 or 61.
MRNFLR	N/A	40 CFR Part 63, Subpart A	The flare is not used to comply with applicable subparts of Part 63.

New Source Review Authorization References

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: GHGPSDTX123	Issuance Date: 02/27/2015
PSD Permit No.: PSDTX1306	Issuance Date: 02/20/2015
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 105710	Issuance Date: 02/20/2015

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
AGRU1	ACID GAS RECOVERY UNIT VENT 1	105710, GHGPSDTX123, PSDTX1306
AGRU2	ACID GAS RECOVERY UNIT VENT 2	105710, GHGPSDTX123, PSDTX1306
AGRU3	ACID GAS RECOVERY UNIT VENT 3	105710, GHGPSDTX123, PSDTX1306
AMNTK1	AMINE STORAGE TANK	105710, PSDTX1306
CONSTCOL	CONDENSATE STABILIZATION COLUMN	105710, PSDTX1306
DSLTK1	DIESEL TANK 1	105710, PSDTX1306
DSLTK2	DIESEL TANK 2	105710, PSDTX1306
DSLTK3	DIESEL TANK 3	105710, PSDTX1306
DSLTK4	DIESEL TANK 4	105710, PSDTX1306
FUG	FUGITIVES	105710, GHGPSDTX123, PSDTX1306
FWPTK1	DIESEL TANK	105710, PSDTX1306
FWPTK2	DIESEL TANK	105710, PSDTX1306
FWPTK3	DIESEL TANK	105710, PSDTX1306
FWPUMP1	DIESEL FIREWATER PUMP 1	105710, GHGPSDTX123, PSDTX1306
FWPUMP2	DIESEL FIREWATER PUMP 2	105710, GHGPSDTX123, PSDTX1306
FWPUMP3	DIESEL FIREWATER PUMP 3	105710, GHGPSDTX123, PSDTX1306
GDFTK1	DIESEL TANK	105710, PSDTX1306
GDFTK2	GASOLINE TANK	105710, PSDTX1306
GEN1	STANDBY GENERATOR 1	105710, GHGPSDTX123, PSDTX1306

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
GEN2	STANDBY GENERATOR 2	105710, GHGPSDTX123, PSDTX1306
GEN3	STANDBY GENERATOR 3	105710, GHGPSDTX123, PSDTX1306
GEN4	STANDBY GENERATOR 4	105710, GHGPSDTX123, PSDTX1306
HPFUEL1	HP FUEL GAS VENT-TRAIN 1	105710, GHGPSDTX123, PSDTX1306
HPFUEL2	HP FUEL GAS VENT-TRAIN 2	105710, GHGPSDTX123, PSDTX1306
HPFUEL3	HP FUEL GAS VENT-TRAIN 3	105710, GHGPSDTX123, PSDTX1306
IFRTK1	CONDENSATE TANK	105710, PSDTX1306
LNGLOAD	LNG LOADING	105710, PSDTX1306
LPFUEL1	LP FUEL GAS VENT-TRAIN 1	105710, GHGPSDTX123, PSDTX1306
LPFUEL2	LP FUEL GAS VENT-TRAIN 2	105710, GHGPSDTX123, PSDTX1306
LPFUEL3	LP FUEL GAS VENT-TRAIN 3	105710, GHGPSDTX123, PSDTX1306
MRNFLR	MARINE FLARE	105710, GHGPSDTX123, PSDTX1306
TRB10	TURBINE 10	105710, GHGPSDTX123, PSDTX1306
TRB11	TURBINE 11	105710, GHGPSDTX123, PSDTX1306
TRB12	TURBINE 12	105710, GHGPSDTX123, PSDTX1306
TRB13	TURBINE 13	105710, GHGPSDTX123, PSDTX1306
TRB14	TURBINE 14	105710, GHGPSDTX123, PSDTX1306
TRB15	TURBINE 15	105710, GHGPSDTX123, PSDTX1306
TRB16	TURBINE 16	105710, GHGPSDTX123, PSDTX1306

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
TRB17	TURBINE 17	105710, GHGPSDTX123, PSDTX1306
TRB18	TURBINE 18	105710, GHGPSDTX123, PSDTX1306
TRB1	TURBINE 1	105710, GHGPSDTX123, PSDTX1306
TRB2	TURBINE 2	105710, GHGPSDTX123, PSDTX1306
TRB3	TURBINE 3	105710, GHGPSDTX123, PSDTX1306
TRB4	TURBINE 4	105710, GHGPSDTX123, PSDTX1306
TRB5	TURBINE 5	105710, GHGPSDTX123, PSDTX1306
TRB6	TURBINE 6	105710, GHGPSDTX123, PSDTX1306
TRB7	TURBINE 7	105710, GHGPSDTX123, PSDTX1306
TRB8	TURBINE 8	105710, GHGPSDTX123, PSDTX1306
TRB9	TURBINE 9	105710, GHGPSDTX123, PSDTX1306
TRKLOAD	TRUCK LOADING	105710, PSDTX1306
WTDYFLR1	WET/DRY GAS FLARE	105710, GHGPSDTX123, PSDTX1306
WTDYFLR2	WET/DRY GAS FLARE	105710, GHGPSDTX123, PSDTX1306

Appendix A

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
COMS ..... continuous opacity monitoring system
CVS ..... closed-vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
DR ..... Designated Representative
ElP ..... El Paso (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
GF ..... grandfathered
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MMBtu/hr ..... Million British thermal units per hour
MRRT ..... monitoring, recordkeeping, reporting, and testing
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PM ..... particulate matter
ppmv ..... parts per million by volume
PSD ..... prevention of significant deterioration
RO ..... Responsible Official
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
TRB1 TRB2 TRB7 TRB8 TRB13 TRB14	Propane Refrigeration Turbines Emission rates are per turbine	NO_x	26.70	-	2, 7, 12, 14, 15, 16, 19	2, 12, 14, 15, 19, 22, 23	2, 3, 14
		CO	16.22	-			
		VOC	0.60	-			
		SO_2	0.31	-			
		H_2S	<0.01	-			
		PM	0.67	-			
		PM_{10}	0.67	-			
		$PM_{2.5}$	0.67	-			
TRB3 TRB4 TRB9 TRB10 TRB15 TRB16	Ethylene Refrigeration Turbines Emission rates are per turbine	NO_x	28.68	-	2, 7, 12, 14, 15, 16, 19	2, 12, 14, 15, 19, 22, 23	2, 3, 14
		CO	17.53	-			
		VOC	0.60	-			
		SO_2	0.31	-			
		H_2S	<0.01	-			
		PM	0.72	-			
		PM_{10}	0.72	-			
		$PM_{2.5}$	0.72	-			
TRB5 TRB6 TRB11 TRB12 TRB17 TRB18	Methane Refrigeration Turbines Emission rates are per turbine	NO_x	26.99	-	2, 7, 12, 14, 15, 16, 19	2, 12, 14, 15, 19, 22, 23	2, 3, 14
		CO	16.36	-			
		VOC	0.60	-			
		SO_2	0.31	-			
		H_2S	<0.01	-			
		PM	0.68	-			
		PM_{10}	0.68	-			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		$PM_{2.5}$	0.68	-			
TRB1 – TRB18	(6) Propane (6) Ethylene (6) Methane Refrigeration Turbines Annual cap	NO_x	-	2197.3	2, 7, 12, 14, 15, 16, 19	2, 12, 14, 15, 19, 22, 23	2, 3, 14
		CO	-	1333.6			
		VOC	-	47.34			
		SO_2	-	24.30			
		H_2S	-	0.18			
		PM	-	55.28			
		PM_{10}	-	55.28			
		$PM_{2.5}$	-	55.28			
TO-1	Thermal Oxidizer	NO_x	1.38	6.07	7, 9, 12, 14, 19	9, 12, 14, 19, 22, 23	14
		CO	1.50	6.57			
		VOC	0.10	0.13			
		SO_2	0.74	2.95			
		H_2S	<0.01	0.02			
		PM	0.21	0.90			
		PM_{10}	0.21	0.90			
		$PM_{2.5}$	0.21	0.90			
TO-2	Thermal Oxidizer	NO_x	1.38	6.07	7, 9, 12, 14, 19	9, 12, 14, 19, 22, 23	14
		CO	1.50	6.57			
		VOC	0.10	0.13			
		SO_2	0.74	2.95			
		H_2S	<0.01	0.02			
		PM	0.21	0.90			
		PM_{10}	0.21	0.90			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		$PM_{2.5}$	0.21	0.90			
TO-3	Thermal Oxidizer	NO_x	1.38	6.07	7, 9, 12, 14, 19	9, 12, 14, 19, 22, 23	14
		CO	1.50	6.57			
		VOC	0.10	0.13			
		SO_2	0.74	2.95			
		H_2S	<0.01	0.02			
		PM	0.21	0.90			
		PM_{10}	0.21	0.90			
		$PM_{2.5}$	0.21	0.90			
WTDYFLR1	Wet/Dry Gas Flare 1 (continuous)	NO_x	1.35	5.20	7, 10, 19	10, 19	
		CO	11.56	44.59			
		VOC	6.56	26.11			
		SO_2	0.02	0.07			
		H_2S	<0.01	<0.01			
WTDYFLR1	Wet/Dry Gas Flare 1 (MSS)	NO_x	368.79	26.80	7, 10, 19	10, 19, 20, 23	
		CO	3,162.03	229.77			
		VOC	1,067.88	21.32			
		SO_2	4.22	0.28			
		H_2S	0.04	<0.01			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
WTDYFLR2	Wet/Dry Gas Flare 2 (continuous)	NO_x	1.35	5.20	7, 10, 19	10, 19	
		CO	11.56	44.59			
		VOC	6.56	26.11			
		SO_2	0.02	0.07			
		H_2S	<0.01	<0.01			
WTDYFLR2	Wet/Dry Gas Flare 2 (MSS)	NO_x	368.79	26.80	7, 10, 19	10, 19, 20, 23	
		CO	3,162.03	229.77			
		VOC	1,067.88	21.32			
		SO_2	4.22	0.28			
		H_2S	0.04	<0.01			
MRNFLR	Marine Flare	NO_x	32.46	3.61	7, 10, 19	10, 19	
		CO	278.28	30.97			
		VOC	5.10	0.56			
		SO_2	0.30	0.10			
		H_2S	<0.01	<0.01			
GEN1	Standby Generator 1	NO_x	9.42	0.12	2, 7, 12, 19	2, 12, 19, 23	2, 3
		CO	1.48	0.02			
		VOC	0.51	0.01			
		SO_2	0.32	<0.01			
		PM	0.13	<0.01			
		PM_{10}	0.13	<0.01			
		$PM_{2.5}$	0.13	<0.01			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
GEN2	Standby Generator 2	NO_x	9.42	0.12	2, 7, 12, 19	2, 12, 19, 23	2, 3
		CO	1.48	0.02			
		VOC	0.51	0.01			
		SO_2	0.32	<0.01			
		PM	0.13	<0.01			
		PM_{10}	0.13	<0.01			
		$PM_{2.5}$	0.13	<0.01			
GEN3	Standby Generator 3	NO_x	9.42	0.12	2, 7, 12, 19	2, 12, 19, 23	2, 3
		CO	1.48	0.02			
		VOC	0.51	0.01			
		SO_2	0.32	<0.01			
		PM	0.13	<0.01			
		PM_{10}	0.13	<0.01			
		$PM_{2.5}$	0.13	<0.01			
GEN4	Standby Generator 4	NO_x	9.42	0.12	2, 7, 12, 19	2, 12, 19, 23	2, 3
		CO	1.48	0.02			
		VOC	0.51	0.01			
		SO_2	0.32	<0.01			
		PM	0.13	<0.01			
		PM_{10}	0.13	<0.01			
		$PM_{2.5}$	0.13	<0.01			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
FWPUMP1	Diesel Firewater Pump 1	NO_x	2.90	0.07	2, 7, 12, 19	2, 12, 19, 23	2
		CO	0.69	0.02			
		VOC	0.08	<0.01			
		SO_2	0.01	<0.01			
		PM	0.10	<0.01			
		PM_{10}	0.10	<0.01			
		$PM_{2.5}$	0.10	<0.01			
FWPUMP2	Diesel Firewater Pump 2	NO_x	2.90	0.07	2, 7, 12, 19	2, 12, 19, 23	2
		CO	0.69	0.02			
		VOC	0.08	<0.01			
		SO_2	0.01	<0.01			
		PM	0.10	<0.01			
		PM_{10}	0.10	<0.01			
		$PM_{2.5}$	0.10	<0.01			
FWPUMP3	Diesel Firewater Pump 3	NO_x	2.90	0.07	2, 7, 12, 19	2, 12, 19, 23	2
		CO	0.69	0.02			
		VOC	0.08	<0.01			
		SO_2	0.01	<0.01			
		PM	0.10	<0.01			
		PM_{10}	0.10	<0.01			
		$PM_{2.5}$	0.10	<0.01			
IFRTK1	Condensate Tank	VOC	0.19	0.72	2, 3, 8, 19	2, 8, 19	2, 3
TRKLD	Truck Loading	VOC	4.41	0.10		23	
DSLTK1	Diesel Tank	VOC	0.07	<0.01			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (5)	Spec. Cond.	Spec. Cond.	Spec. Cond.
DSLTK2	Diesel Tank	VOC	0.07	<0.01			
DSLTK3	Diesel Tank	VOC	0.07	<0.01			
DSLTK4	Diesel Tank	VOC	0.07	<0.01			
FWPTK1	Diesel Tank	VOC	0.04	<0.01			
FWPTK2	Diesel Tank	VOC	0.04	<0.01			
FWPTK3	Diesel Tank	VOC	0.04	<0.01			
GDFTK1	Diesel Tank	VOC	0.07	<0.01			
GDFTK2	Gasoline Tank	VOC	17.38	0.37			
AMNTK1	Amine Storage Tank	VOC	<0.01	<0.01			
AMNSRG1	Amine Surge Tank - MSS	VOC	0.01	<0.01			
AMNSRG2	Amine Surge Tank - MSS	VOC	0.01	<0.01			
AMNSRG3	Amine Surge Tank - MSS	VOC	0.01	<0.01			
FUG	Fugitive Emissions (6)	VOC	6.78	29.70	17	17, 23	17

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
(4) Planned startup and shutdown (SS) lbs/hour emissions for all pollutants are authorized even if not specifically identified as SS.

(5) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. Annual emission rates for each source include planned SS emissions, unless otherwise noted.
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
TRB1 – TRB18	Turbine 1 – Turbine 18 Emission rates are per turbine	CO_2 (5)	146,601	2, 5, 11, 17, 18, 19, 20	2, 11, 17, 20, 21, 22	
		CH_4 (5)	2.8			
		N_2O (5)	0.28			
		CO_{2e}	146,754			
TO-1	Thermal Oxidizer	CO_2 (5)	196,438	5, 6, 10, 12, 13, 14, 17, 18, 19, 20	6, 10, 12, 13, 14, 17, 20, 21, 22	10
		CH_4 (5)	0.55			
		N_2O (5)	0.02			
		CO_{2e}	196,458			
TO-2	Thermal Oxidizer	CO_2 (5)	196,438	5, 6, 10, 12, 13, 14, 17, 18, 19, 20	6, 10, 12, 13, 14, 17, 20, 21, 22	10
		CH_4 (5)	0.55			
		N_2O (5)	0.02			
		CO_{2e}	196,458			
TO-3	Thermal Oxidizer	CO_2 (5)	196,438	5, 6, 10, 12, 13, 14, 17, 18, 19, 20	6, 10, 12, 13, 14, 17, 20, 21, 22	10
		CH_4 (5)	0.55			
		N_2O (5)	0.02			
		CO_{2e}	196,458			
WTDYFLR1	Wet/Dry Gas Flare 1	CO_2 (5)	66,670	5, 7, 17, 18, 19	7, 17, 22	
		CH_4 (5)	184			
		N_2O (5)	0.11			
		CO_{2e}	71,303			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
WTDYFLR2	Wet/Dry Gas Flare 2	CO_2 (5)	66,670	5, 7, 17, 18, 19	7, 17, 22	
		CH_4 (5)	184			
		N_2O (5)	0.11			
		CO_{2e}	71,303			
MRNFLR	Marine Flare	CO_2 (5)	25,932	5, 7, 17, 18, 19	7, 17, 22	
		CH_4 (5)	107			
		N_2O (5)	0.01			
		CO_{2e}	28,610			
GEN1	Standby Generator 1	CO_2 (5)	35	5, 17, 18, 19	3, 5,17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	35			
GEN2	Standby Generator 2	CO_2 (5)	35	5, 17, 18, 19	3, 5,17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	35			
GEN3	Standby Generator 3	CO_2 (5)	35	5, 17, 18, 19	3, 5,17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	35			
GEN4	Standby Generator 4	CO_2 (5)	35	5, 17, 18, 19	3, 5,17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CO_{2e}	35			
FWPUMP1	Diesel Firewater Pump 1	CO_2 (5)	13	5, 17, 18, 19	4, 5, 17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	13			
FWPUMP2	Diesel Firewater Pump 2	CO_2 (5)	13	5, 17, 18, 19	4, 5, 17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	13			
FWPUMP3	Diesel Firewater Pump 3	CO_2 (5)	13	5, 17, 18, 19	4, 5, 17, 22	
		CH_4 (5)	<0.01			
		N_2O (5)	<0.01			
		CO_{2e}	13			
BOG	BOG Compressor Venting	CH_4 (5)	0.75	17	17, 22	
		CO_{2e} (6)	19			
FUG	Fugitive Emissions	CO_2 (5)	0.22	15	15, 22	15
		CH_4 (5)	433			
		CO_{2e} (6)	10,825			

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) CO_2 - carbon dioxide
N_2O - nitrous oxide
CH_4 - methane

CO_2e - carbon dioxide equivalents based on the following Global Warming Potentials (11/2014):
CO2 (x), N_2O (298), CH_4(25), SF_6 (22,800), HFC (various), PFC (various)

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.

(5) Emission rate is given for informational purposes only and does not constitute enforceable limit.

(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A Permit Is Hereby Issued To
Corpus Christi Liquefaction, L.L.C.
Authorizing the Construction and Operation of
Corpus Christi Liquefaction
Located at **Gregory, San Patricio County, Texas**
Latitude 27° 53′ 26″ Longitude −97° 16′ 24″

Permits: 105710 and PSDTX1306

Revision Date : February 20, 2015

Expiration Date: September 12, 2024

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code 116.116 (30 TAC 116.116)]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC 116.120(a), (b) and (c)]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC 116.115(b)(2)(B)(iii)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

Special Conditions

Permit Numbers 105710 and PSDTX1306

1. This permit authorizes emissions only from those emission points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," (MAERT) and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit. Also, this permit authorizes the emissions from planned maintenance, startup and shutdown.

Federal Applicability

2. Affected facilities shall comply with applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources, Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):
   A. Subpart A: General Provisions.
   B. Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels.
   C. Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
   D. Subpart KKKK: Standards of Performance for Stationary Combustion Turbines.
3. Affected facilities shall comply with applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR Part 63:
   A. Subpart A: General Provisions.
   B. Subpart EEEE: National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline).
   C. Subpart YYYY: National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines.
   D. Subpart ZZZZ: National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

Emission Standards and Operating Specifications

4. This permit authorizes eighteen (18) GE LM2500+G4 DLE natural gas fired combustion turbines. **(2/15)**
   A. The concentration of nitrogen oxides (NO_x) from EPNs TRB1 through TRB18 shall not exceed 25 parts per million by volume dry (ppmvd) per turbine corrected to 15 percent oxygen (O_2) on a four-hour rolling average for routine operation, except during startup and shutdown, and a one-hour basis for stack emissions testing. **(2/15)**

B. The concentration of carbon monoxide (CO) from EPNs EPNs TRB1 through TRB18 shall not exceed 29 ppmvd per turbine corrected to 15 percent O_2, on a one-hour average, except during startup and shutdown.

C. Planned startup or shutdown of the turbines is limited to no more than 1 hour per turbine per event. Startup is defined as beginning when fuel is fired in the combustor from a previously unfired state and ending when turbine loads exceeds 50%. Shutdown is defined as beginning when turbine load drops below 50% and ending when fuel ceases to be fired.

5. The standby generators (EPNs GEN1 through GEN 4) are limited to no more than 27 hours each of non-emergency operation per 12-month period.

6. The firewater pump engines (EPNs FWPUMP1 through FWPUMP3) are limited to no more than 52 hours each of non-emergency operation per 12-month period.

7. Fuel for the facilities authorized by this permit is limited to the following:

   A. Thermal oxidizers and flare pilots are limited to pipeline quality natural gas.

   B. The turbines are limited to pipeline quality natural gas.

   C. The standby generators and firewater pump engines are limited to ultra-low sulfur diesel containing no more than 15 ppm by weight sulfur.

   Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel, or shall allow air pollution control agency representatives to obtain a sample for analysis.

8. The condensate storage tank (EPN IFRTK1) must meet the following conditions:

   A. An internal floating deck or "roof" or equivalent control shall be installed. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal.

   B. The permit holder shall perform the visual inspections and seal gap measurements as specified in Title 40 Code of Federal Regulations § 60.113b (40 CFR § 60.113b) Testing and Procedures (as amended at 54 FR 32973, August 11, 1989) to verify fitting and seal integrity. Records shall be maintained of the dates seals were inspected and seal gap measurements made, results of inspections and measurements made (including raw data), and actions taken to correct any deficiencies noted.

   C. The floating roof design shall incorporate sufficient flotation to conform to the requirements of API Code 650 dated November 1, 1998 except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

D. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. The storage tank must be equipped with permanent submerged fill pipes.

E. Tank throughput involving truck loading is limited to 20,000 gallons per rolling 12-month period and the maximum tank withdrawal rate is limited to 417 gallons per hour. Truck loading of condensate must be submerged fill.

F. The permit holder must maintain a record of total tank throughput for the previous month and the past consecutive 12-month period.

9. Vents from each Acid Gas Removal Unit must be directed to the thermal oxidizers (TO). The TO combustion chamber outlet temperatures for EPNs TO-1, TO-2, and TO-3 shall be continuously monitored when waste gas is directed to the TO. The minimum outlet temperature shall be 1400 degrees Fahrenheit, until a minimum operating temperature is established by the testing required in Special Condition No. 14., when waste gas is directed to the TO. The outlet temperature must be recorded at least four times an hour (once per quarter of the hour) when waste gas is directed to the TO. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have accuracy the greater of 1 percent of the temperature being measured or 4.5 degrees Fahrenheit.

10. The flare systems (EPNs WTDYFLR1, WTDYFLR2, and MRNFLR), except as set forth herein, shall be designed and operated in accordance with the following requirements:

A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal and maintenance flow conditions. The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements. EPN MRNFLR shall not be subject to the minimum heating value requirement of 40 CFR § 60.18 during the process of venting inert gases from ships.

B. The wet/dry flares (EPNs WTDYFLR1 and WTDYFLR2) shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with the manufacturer’s specifications.

C. The marine flare, EPN MRNFLR, shall be operated with a flame present at all times when liquefied natural gas carriers (LNGCs) are connected to the vapor transfer arm. During all times when EPN MRNFLR is in use, the pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring

device shall be accurate to, and shall be calibrated at a frequency in accordance with the manufacturer's specifications.

D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

The requirements above are not applicable during emission events. Emission events are not authorized by this permit.

11. When conditioning a marine vessel to accept liquefied natural gas (LNG), the associated emissions from the LNGC must be routed to EPN MRNFLR so that EPN MRNFLR can act as a vent stack during purging of any inert gases. When loading LNGCs, boil off gas must be returned to the process.

12. Opacity of emissions from any one stack, other than the flares, authorized by this permit shall not exceed five percent averaged over a six-minute period from each stack, except during planned maintenance, startup, and shutdown where it shall not exceed 15 percent. This determination shall be made by first observing for visible emissions while each facility is in operation. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point(s). Up to three emissions points may be read concurrently, provided that all three emissions points are within a 70 degree viewing sector or angle in front of the observer such that the proper sun position (at the observer's back) can be maintained for all three emission points.

    If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 hours for that emission point using Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Instead of determining opacity as described above, the permit holder may choose to consider any observed visible emissions a violation of the opacity limit and record it as such. Observations shall be performed and recorded quarterly. If the opacity exceeds five percent or 15 percent, as applicable, corrective action to eliminate the source of visible emissions shall be taken promptly and documented within one week of first observation.

Initial Determination of Compliance

13. Sampling ports and platforms shall be incorporated into the design of all exhaust stacks according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director.

14. The holder of this permit shall perform stack sampling and other testing as required to establish the actual quantities of air contaminants being emitted into the atmosphere from EPNs TRB1 through TRB18 and TO-1 through TO-3 and to determine initial compliance with all emission limits for EPNs TRB1 through TRB18 established in this permit. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods to be determined during the pretest meeting.

Fuel sampling using the methods and procedures of 40 CFR § 60.4415 may be conducted in lieu of stack sampling for sulfur dioxide (SO_2) or the permit holder may be exempted from stack and fuel monitoring of SO_2 as provided under 40 CFR § 60.4365(b). If fuel sampling is used, compliance with New Source Performance Standards (NSPS) Subpart KKKK, SO_2 limits shall be based on 100 percent conversion of the sulfur in the fuel to SO_2. Any deviations from those procedures must be approved by the Executive Director of the TCEQ prior to sampling. The TCEQ Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.

The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

A. The TCEQ Corpus Christi Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

   The notice shall include:

   (1) Date for pretest meeting.

   (2) Date sampling will occur.

   (3) Name of firm conducting sampling.

   (4) Type of sampling equipment to be used.

   (5) Method or procedure to be used in sampling.

   (6) Procedure used to determine turbine loads during and after the sampling period.

   The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions, or the TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have EPA approval shall be submitted to the EPA and copied to TCEQ Regional Director.

B. For EPNs TRB1 through TRB18, air contaminants and diluents to be sampled and analyzed include (but are not limited to) NO_x, O_2, CO, volatile organic compounds (VOC), and SO_2. Fuel sampling using the methods and procedures of 40 CFR § 60.4415. For SO_2, the exemptions from emissions testing and fuel monitoring in 40 CFR § 60.4365(b) will apply.

C. Each turbine shall be tested at or above 90% of maximum load operations. Each tested turbine load shall be identified in the sampling report. The permit holder shall present at the pretest meeting the manner in which stack sampling will be executed in order to demonstrate compliance with emission standards found in 40 CFR Part 60, Subpart KKKK.

D. For EPNs TO-1 through TO-3, a VOC destruction efficiency of at least 99.9% or a VOC outlet concentration of 10 ppmvd or less at 3 percent oxygen on a one hour average must be demonstrated. The minimum operating temperature shall be the average temperature at which compliance with the above was demonstrated.

E. Sampling as required by this condition shall occur within 60 days after achieving the maximum production rate at which each facility will be operated, but no later than 180 days after initial start-up of each facility. Additional sampling may be required by TCEQ or EPA.

F. Within 60 days after the completion of the testing and sampling required herein, one copy of the sampling report shall be sent to the TCEQ Corpus Christi Regional Office.

Continuous Demonstration of Compliance

15. The holder of this permit shall install, calibrate, maintain, and operate a system to continuously monitor and record the fuel consumption in the turbines (EPNs TRB1 through TRB18). The system shall be accurate to ± 5.0 percent of the unit's maximum flow and calibrated according to the manufacturer's instructions. **(2/15)**

16. After every hot section (gas generator) change-out, the holder of this permit shall perform the testing described in Special Condition No. 14 for that turbine(s) again.

Piping, Valves, Connectors, Pumps, and Compressors - 28VHP

17. Except as may be provided for in the special conditions of this permit, the following requirements apply to all piping, valves, connectors, pumps, and compressors:

A. These conditions shall not apply (1) where the VOC have an aggregate partial pressure or vapor pressure of less than 0.044 pound per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure; or (3) to components in pipeline quality natural gas or BOG service. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

(1) piping and instrumentation diagram (PID);

(2) a written or electronic database;

(3) color coding;

(4) a form of weatherproof identification; or

(5) designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in Subparagraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

   Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling or other such periods where flow through the valve(s) is necessary for maintenance, both valves shall be closed. If the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 24 hours. If the repair or replacement is not completed within 24 hours, the line or valve must have a cap, blind flange, plug, or second valve installed.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture

disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed weekly and recorded in the unit log.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOCs to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each VOC to be measured.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leaks described in this paragraph must be made within 5 days. Records of the first attempt to repair shall be maintained.

I. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of

repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC § 115.782(c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC § 115.782(c)(1)(B)(i)(I), the TCEQ Regional Manager, and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. Records of physical inspections shall be noted in the operator's log or equivalent.

K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 and 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Maintenance, Startup, and Shutdown

18. Each liquefaction train is limited to no more than three planned startup and three planned shutdown events per rolling 12-month period. No more than two trains may be in planned simultaneous startup or shutdown in any given hour. Hours where more than one train is in planned startup or shutdown are limited to 168 hours per 12-month period.

19. The permit holder shall establish, implement, and update, as appropriate, a program to maintain and repair facilities. The minimum requirements of this program must include:

    A. A maintenance program developed by the permit holder for all equipment that is consistent with good air pollution control practices, or alternatively, manufacturer's specifications and recommended programs applicable to equipment performance and the effect on emissions;

    B. Cleaning and routine inspection of all equipment;

C. Repair of equipment on timeframes that minimize equipment failures and maintain performance;

D. Training of personnel who implement the maintenance program; and

E. Records of conducted planned MSS activities.

20. Sections of the plant handling ethylene or propane undergoing shutdown or maintenance that requires breaking a line or opening a vessel shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements.

A. The process equipment shall be emptied to the pressurized refrigerant storage vessels, pumping as much liquid as practicable to the storage vessels, prior to venting to atmosphere, degassing, or draining liquid. Facilities shall be degassed using good engineering and best management practices as developed per Special Condition No. 19 to ensure air contaminants are removed from the system through the control device (EPNs WTDYFLR1 or WTDYFLR2) to the extent allowed by process equipment or storage vessel design. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC concentration following controlled depressurization. The venting shall be minimized to the maximum extent practicable and actions taken recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.

B. The locations and/or identifiers where the purge gas enters the process equipment or storage vessel and the exit points for the exhaust gases shall be recorded (process flow diagrams [PFDs] or piping and instrumentation diagrams [P&IDs] may be used to demonstrate compliance with the requirement).

C. If the process equipment requires purging, it will be conducted using best management and good air pollution control practices.

21. All contents from process equipment or storage tanks must be removed to the maximum extent possible practicable prior to opening equipment to commence degassing and maintenance. Liquid and solid removal must be directed to covered containment, recycled, or disposed of properly. If it is necessary to drain liquid into an open pan or the sump, the liquid must be covered and transferred to a covered vessel within one hour of being drained.

Recordkeeping

22. The following records must be kept at the plant for the life of the permit. All records required in this permit must be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:

A. A copy of this permit.

B. Permit application dated August 31, 2012, and subsequent representations submitted to the TCEQ.

C. A complete copy of the testing reports and records of performance testing completed pursuant to Special Condition No. 14.

23. The following information must be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:

A. Records of hourly fuel consumption of EPNs TRB1 through TRB18. **(2/15)**

B. For records of MSS:

(1) Date, time and duration of the event; and

(2) Emissions from the event.

C. Records of condensate load-out kept on a monthly basis.

D. Records of visible emission checks and opacity readings as required by Special Condition No. 12 and any corrective actions taken.

E. Hours of operation on a monthly and 12-month period for the standby generators and the firewater pumps.

F. Records of thermal oxidizer temperature as required by Special Condition No. 9.

G. Records required by the monitoring program in Special Condition No. 17.

Date: February 20, 2015

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 105710 and PSDTX1306

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
TRB1-TRB18 (6 propane, 6 ethylene, and 6 methane refrigeration turbines) are subject to a combined TPY cap.				
TRB1 TRB2 TRB7 TRB8 TRB13 TRB14	Propane Refrigeration Turbines Emission rates are per turbine	NO_x	26.70	-
		CO	16.22	-
		VOC	0.60	-
		SO_2	0.31	-
		H_2S	<0.01	-
		PM	0.67	-
		PM_{10}	0.67	-
		$PM_{2.5}$	0.67	-
TRB3 TRB4 TRB9 TRB10 TRB15 TRB16	Ethylene Refrigeration Turbines Emission rates are per turbine	NO_x	28.68	-
		CO	17.53	-
		VOC	0.60	-
		SO_2	0.31	-
		H_2S	<0.01	-
		PM	0.72	-
		PM_{10}	0.72	-
		$PM_{2.5}$	0.72	-

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
TRB5 TRB6 TRB11 TRB12 TRB17 TRB18	Methane Refrigeration Turbines Emission rates are per turbine	NO_x	26.99	-
		CO	16.36	-
		VOC	0.60	-
		SO_2	0.31	-
		H_2S	<0.01	-
		PM	0.68	-
		PM_{10}	0.68	-
		$PM_{2.5}$	0.68	-
TRB1-TRB18	(6) Propane (6) Ethylene (6) Methane Refrigeration Turbines Annual cap	NO_x	-	2197.3
		CO	-	1333.6
		VOC	-	47.34
		SO_2	-	24.30
		H_2S	-	0.18
		PM	-	55.28
		PM_{10}	-	55.28
		$PM_{2.5}$	-	55.28
TO-1	Thermal Oxidizer	NO_x	1.38	6.07
		CO	1.50	6.57
		VOC	0.10	0.13
		SO_2	0.74	2.95
		H_2S	<0.01	0.02
		PM	0.21	0.90
		PM_{10}	0.21	0.90

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
		$PM_{2.5}$	0.21	0.90
TO-2	Thermal Oxidizer	NO_x	1.38	6.07
		CO	1.50	6.57
		VOC	0.10	0.13
		SO_2	0.74	2.95
		H_2S	<0.01	0.02
		PM	0.21	0.90
		PM_{10}	0.21	0.90
		$PM_{2.5}$	0.21	0.90
TO-3	Thermal Oxidizer	NO_x	1.38	6.07
		CO	1.50	6.57
		VOC	0.10	0.13
		SO_2	0.74	2.95
		H_2S	<0.01	0.02
		PM	0.21	0.90
		PM_{10}	0.21	0.90
		$PM_{2.5}$	0.21	0.90
WTDYFLR1	Wet/Dry Gas Flare 1 (continuous)	NO_x	1.35	5.20
		CO	11.56	44.59
		VOC	6.56	26.11
		SO_2	0.02	0.07
		H_2S	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
WTDYFLR1	Wet/Dry Gas Flare 1 (MSS)	NO_x	368.79	26.80
		CO	3,162.03	229.77
		VOC	1,067.88	21.32
		SO_2	4.22	0.28
		H_2S	0.04	<0.01
WTDYFLR2	Wet/Dry Gas Flare 2 (continuous)	NO_x	1.35	5.20
		CO	11.56	44.59
		VOC	6.56	26.11
		SO_2	0.02	0.07
		H_2S	<0.01	<0.01
WTDYFLR2	Wet/Dry Gas Flare 2 (MSS)	NO_x	368.79	26.80
		CO	3,162.03	229.77
		VOC	1,067.88	21.32
		SO_2	4.22	0.28
		H_2S	0.04	<0.01
MRNFLR	Marine Flare	NO_x	32.46	3.61
		CO	278.28	30.97
		VOC	5.10	0.56
		SO_2	0.30	0.10
		H_2S	<0.01	<0.01
GEN1	Standby Generator 1	NO_x	9.42	0.12
		CO	1.48	0.02
		VOC	0.51	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
		SO_2	0.32	<0.01
		PM	0.13	<0.01
		PM_{10}	0.13	<0.01
		$PM_{2.5}$	0.13	<0.01
GEN2	Standby Generator 2	NO_x	9.42	0.12
		CO	1.48	0.02
		VOC	0.51	0.01
		SO_2	0.32	<0.01
		PM	0.13	<0.01
		PM_{10}	0.13	<0.01
		$PM_{2.5}$	0.13	<0.01
GEN3	Standby Generator 3	NO_x	9.42	0.12
		CO	1.48	0.02
		VOC	0.51	0.01
		SO_2	0.32	<0.01
		PM	0.13	<0.01
		PM_{10}	0.13	<0.01
		$PM_{2.5}$	0.13	<0.01
GEN4	Standby Generator 4	NO_x	9.42	0.12
		CO	1.48	0.02
		VOC	0.51	0.01
		SO_2	0.32	<0.01
		PM	0.13	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
		PM_{10}	0.13	<0.01
		$PM_{2.5}$	0.13	<0.01
FWPUMP1	Diesel Firewater Pump 1	NO_x	2.90	0.07
		CO	0.69	0.02
		VOC	0.08	<0.01
		SO_2	0.01	<0.01
		PM	0.10	<0.01
		PM_{10}	0.10	<0.01
		$PM_{2.5}$	0.10	<0.01
FWPUMP2	Diesel Firewater Pump 2	NO_x	2.90	0.07
		CO	0.69	0.02
		VOC	0.08	<0.01
		SO_2	0.01	<0.01
		PM	0.10	<0.01
		PM_{10}	0.10	<0.01
		$PM_{2.5}$	0.10	<0.01
FWPUMP3	Diesel Firewater Pump 3	NO_x	2.90	0.07
		CO	0.69	0.02
		VOC	0.08	<0.01
		SO_2	0.01	<0.01
		PM	0.10	<0.01
		PM_{10}	0.10	<0.01
		$PM_{2.5}$	0.10	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (4)	
			lbs/hour	TPY (5)
IFRTK1	Condensate Tank	VOC	0.19	0.72
TRKLD	Truck Loading	VOC	4.41	0.10
DSLTK1	Diesel Tank	VOC	0.07	<0.01
DSLTK2	Diesel Tank	VOC	0.07	<0.01
DSLTK3	Diesel Tank	VOC	0.07	<0.01
DSLTK4	Diesel Tank	VOC	0.07	<0.01
FWPTK1	Diesel Tank	VOC	0.04	<0.01
FWPTK2	Diesel Tank	VOC	0.04	<0.01
FWPTK3	Diesel Tank	VOC	0.04	<0.01
GDFTK1	Diesel Tank	VOC	0.07	<0.01
GDFTK2	Gasoline Tank	VOC	17.38	0.37
AMNTK1	Amine Storage Tank	VOC	<0.01	<0.01
AMNSRG1	Amine Surge Tank - MSS	VOC	0.01	<0.01
AMNSRG2	Amine Surge Tank - MSS	VOC	0.01	<0.01
AMNSRG3	Amine Surge Tank - MSS	VOC	0.01	<0.01
FUG	Fugitive Emissions (6)	VOC	6.78	29.70

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide

Emission Sources - Maximum Allowable Emission Rates

(4) Planned startup and shutdown (SS) lbs/hour emissions for all pollutants are authorized even if not specifically identified as SS.
(5) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period. Annual emission rates for each source include planned SS emissions, unless otherwise noted.
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: February 20, 2015

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A Permit Is Hereby Issued To
Corpus Christi Liquefaction, L.L.C.
Authorizing the Construction and Operation of
Corpus Christi Liquefaction Plant
Located at **Gregory, San Patricio County, Texas**
Latitude 27° 52′ 59″ Longitude –97° 16′ 9″

Permit: GHGPSDTX123

Issuance Date : February 27, 2015

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code 116.116 (30 TAC 116.116)]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC 116.120(a), (b) and (c)]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC 116.115(b)(2)(B)(iii)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

Special Conditions

Permit Number GHGPSDTX123

1. This permit authorizes emissions only from those emission points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," (MAERT) and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit. Also, this permit authorizes the emissions from planned maintenance, startup and shutdown.

Emission Standards and Operating Specifications

2. This permit authorizes eighteen (18) GE LM2500+G4 DLE natural gas fired combustion turbines.

   A. Permittee shall follow manufacturer's emission-related written instructions for maintenance activities including prescribed maintenance intervals to assure good combustion. Compressors shall be inspected and maintained according to a written maintenance plan.

   B. Planned startup or shutdown of the turbines is limited to no more than 1 hour per turbine per event. Startup is defined as beginning when fuel is fired in the combustor from a previously unfired state and ending when turbine loads exceeds 50%. Shutdown is defined as beginning when turbine load drops below 50% and ending when fuel ceases to be fired.

3. The standby generators (EPNs GEN1 through GEN4) are limited to no more than 27 hours each of non-emergency operation per 12-month period. Each generator shall be equipped with a non-resettable elapsed run time meter.

4. The firewater pump engines (EPNs FWPUMP1 through FWPUMP3) are limited to no more than 52 hours each of non-emergency operation per 12-month period. Each engine shall be equipped with a non-resettable elapsed run time meter.

5. Fuel for the facilities authorized by this permit is limited to the following:

   A. Thermal oxidizers and flare pilots are limited to pipeline quality natural gas.

   B. The turbines are limited to pipeline quality natural gas.

   C. The standby generators and firewater pump engines are limited to ultra-low sulfur diesel containing no more than 15 ppm by weight sulfur.

   Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel, or shall allow air pollution control agency representatives to obtain a sample for analysis.

6. Vents from each Acid Gas Removal Unit must be directed to the thermal oxidizers (TO).

A. The TO combustion chamber outlet temperatures for EPNs TO-1, TO-2, and TO-3 shall be continuously monitored when waste gas is directed to the TO. The minimum outlet temperature shall be 1400 degrees Fahrenheit, until a minimum operating temperature is established by the testing required in Special Condition No. 10, when waste gas is directed to the TO. The outlet temperature must be recorded at least four times an hour (once per quarter of the hour) when waste gas is directed to the TO. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have accuracy the greater of 1 percent of the temperature being measured or 4.5 degrees Fahrenheit.

B. A minimum exhaust oxygen content of 3 percent must be maintained on an hourly average. Oxygen analyzers shall continuously monitor and record oxygen concentration when waste gas is directed to the thermal oxidizers. It shall record the oxygen readings at least four times an hour (once per quarter of the hour) when waste gas is directed to the TO and averaged hourly for compliance demonstration. A partial operational hour with greater than 30 minutes of data shall count as a valid hour. The oxygen analyzers shall be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2. In lieu of CGAs, the permit holder may elect to replace the oxygen sensor semiannually.

7. The flare systems (EPNs WTDYFLR1, WTDYFLR2, and MRNFLR), except as set forth herein, shall be designed and operated in accordance with the following requirements:

A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal and maintenance flow conditions. The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements. EPN MRNFLR shall not be subject to the minimum heating value requirement of 40 CFR § 60.18 during the process of venting inert gases from ships.

B. The wet/dry flares (EPNs WTDYFLR1 and WTDYFLR2) shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to within manufacturer’s specifications and shall be calibrated at a frequency in accordance with the manufacturer’s specifications.

C. The marine flare, EPN MRNFLR, shall be operated with a flame present at all times when liquefied natural gas carriers (LNGCs) are connected to the vapor transfer arm. During all times when EPN MRNFLR is in use, the pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to within manufacturer’s specifications, and shall be calibrated at a frequency in accordance with the manufacturer’s specifications.

D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

The requirements above are not applicable during emission events. Emission events are not authorized by this permit.

8. When conditioning a marine vessel to accept liquefied natural gas (LNG), the associated emissions from the LNGC must be routed to EPN MRNFLR so that EPN MRNFLR can act as a vent stack during purging of any inert gases. When loading LNGCs, boil off gas must be returned to the process.

Initial Determination of Compliance

9. Sampling ports and platforms shall be incorporated into the design of all exhaust stacks according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director.

10. The holder of this permit shall perform stack sampling and other testing as required to establish the actual quantities of air contaminants being emitted into the atmosphere from EPNs TO-1 through TO-3. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods to be determined during the pretest meeting.

Any deviations from those procedures must be approved by the Executive Director of the TCEQ prior to sampling. The TCEQ Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.

The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

A. The TCEQ Corpus Christi Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

(1) Date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

B. For EPNs TO-1 through TO-3, a CH_4 destruction and removal efficiency (DRE) of at least 99.9% on a one hour average must be demonstrated. The minimum operating temperature shall be the average temperature at which compliance with the above was demonstrated.

C. The carbon content (CC) of the fuels, except for diesel, shall be obtained by using the methods of 40 CFR § 98.34(b)(4). The molecular weight (MW) of the fuels, except for diesel, shall be determined, by the procedures contained in 40 CFR § 98.34(a)(6). The fuel gross calorific value (GCV) [high heat value (HHV)] of the fuels, except for diesel, shall be determined by the procedures contained in 40 CFR § 98.34(a)(6).

D. Sampling as required by this condition shall occur within 60 days after achieving the maximum production rate at which each facility will be operated, but no later than 180 days after initial start-up of each facility. Additional sampling may be required by TCEQ or EPA.

E. Within 60 days after the completion of the testing and sampling required herein, one copy of the sampling report shall be sent to the TCEQ Corpus Christi Regional Office.

Continuous Demonstration of Compliance

11. The permit holder shall install, calibrate, maintain, and operate a system to continuously monitor and record the average hourly fuel consumption of each turbine (EPNs TRB1 through TRB18) with individual flow measurements being taken no less frequently than once every 15 minutes. The fuel flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. The flow meters shall be accurate to ± 5.0 percent of the unit's maximum flow.

12. The permit holder shall continuously monitor and record (1) the average hourly flow rate to each thermal oxidizer from the vent of each Acid Gas Removal Unit and (2) the average hourly fuel consumption of each TO with individual flow measurements being taken no less frequently than once every 15 minutes. The flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. The flow meters shall be accurate to ± 5.0 percent of the unit's maximum flow.

13. The volumetric concentration of CO_2 from each TO stack shall be sampled and analyzed according to 40 CFR §98.234(b) annually. The volumetric concentration of CH_4 from the vent of each Acid Gas Removal Unit shall be sampled and analyzed according to 40 CFR §98.234(b) annually.

14. At each shutdown where the TO is accessible for inspection, each TO (EPNs TO-1 through TO-3) shall be inspected for damaged internal components, settling of packing, and other degradation of the equipment that would affect system performance. Corrective action shall be taken and documented if degradation is found.

Piping, Valves, Connectors, Pumps, and Compressors - 28M

15. Except as may be provided for in the special conditions of this permit, the following requirements apply to all piping, valves, connectors, pumps, and compressors in pipeline quality natural gas service:

A. These conditions shall not apply where the operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

(1) piping and instrumentation diagram (PID);

(2) a written or electronic database;

(3) color coding;

(4) a form of weatherproof identification; or

(5) designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in Subparagraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling or other such periods where flow through the valve(s) is necessary for maintenance, both valves shall be closed. If the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a

cap, blind flange, plug, or second valve for 24 hours. If the repair or replacement is not completed within 24 hours, the line or valve must have a cap, blind flange, plug, or second valve installed.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed weekly and recorded in the unit log.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. The gas analyzer shall be calibrated with methane.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

H. Damaged or leaking valves or connectors found to be emitting CH_4 in excess of 10,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting CH_4 in excess of 10,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leaks described in this paragraph must be made within 5 days. Records of the first attempt to repair shall be maintained.

I. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A

listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC § 115.782(c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC § 115.782(c)(1)(B)(i)(I), the TCEQ Regional Manager, and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. Records of physical inspections shall be noted in the operator's log or equivalent.

K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 and 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Maintenance, Startup, and Shutdown

16. Each liquefaction train is limited to no more than three planned startup and three planned shutdown events per rolling 12-month period. No more than two trains may be in planned simultaneous startup or shutdown in any given hour. Hours where more than one train is in planned startup or shutdown are limited to 168 hours per 12-month period.

17. The permit holder shall establish, implement, and update, as appropriate, a program to maintain and repair facilities. The minimum requirements of this program must include:

    A. A maintenance program developed by the permit holder for all equipment that is consistent with good air pollution control practices, or alternatively, manufacturer's specifications and recommended programs applicable to equipment performance and the effect on emissions;

    B. Cleaning and routine inspection of all equipment;

    C. Repair of equipment on timeframes that minimize equipment failures and maintain performance;

D. Training of personnel who implement the maintenance program; and

E. Records of conducted planned MSS activities.

Calculation Methodology

18. Calculations of emissions of CO_2, CH_4, and N_2O to determine compliance with the MAERT CO_{2e} emission limitation shall be calculated in the following manner by the end of the current month for the previous rolling 12-month basis.

A. Any referenced methodology of 40 CFR Part 98 is modified as follows

(1) References to annual measurements are to be construed as a rolling 12-month total if the variable is measured on a monthly or more frequent basis.

(2) References to annual measurements that are not measured at a frequency greater than one month (e.g. quarterly or semiannual) are to be construed as the average of the most recent measurements based on a year (e.g. average of 4 quarterly or 2 semiannual). This is a rolling basis.

B. For each combustion turbine (EPNs TRB1 through TRB18)

(1) Use the rolling 12-month total fuel flow rate .

(2) Use the methodology in 40 CFR § 98.33(a)(3)(iii) (Equation C-5) with CO_2 converted to short tons.

(3) Use the default CH_4 and N_2O emission factors contained in Table C-2 and Equation C-9a of 40 CFR Part 98.

C. For each TO (EPNs TO-1 through TO-3)

(1) For the acid gas stream, use the methodology in 40 CFR § 98.233(d)(2) (Equation W-3) with $E_{a,CO2}$ converted to short tons.

(2) For the acid gas stream, to calculate unburned CH_4 emission use

(a) the rolling 12-month total flow rate of acid gas sent to the TO;

(b) the average of the last four quarterly analyses performed according to Special Condition No. 13; and

(c) a DRE of 99.9% for CH_4.

(3) Use the default CO_2, CH_4, and N_2O emission factors contained in Table C-1 and Table C-2 and Equation C-9a of 40 CFR Part 98 for the pilot gas.

D. For each flare system (EPNs WTDYFLR1, WTDYFLR2, and MRNFLR)

(1) To calculate CH_4 and CO_2 emissions, use the methodology in 40 CFR § 98.233(n)(4) with

(a) The rolling 12-month average CH_4 content and total volumetric gas flow to the flare and

(b) A DRE of 99%

(2) To calculate CO_2 emissions use

(a) The rolling 12-month average CO_2 content

(b) The rolling 12-month average total hydrocarbon content and a DRE of 98%

(3) To calculate N_2O emissions use

(a) the methodology in 40 CFR § 98.233(z)(2) (Equation W-40) and

(b) The rolling 12-month average volumetric gas flow.

E. Emergency engines and generators (EPNs GEN1 through Gen-4, FWPUMP1, and FWPUMP2)

(1) Use the default CO_2, CH_4, and N_2O emission factors contained in Table C-1 and Table C-2 and 40 CFR Part 98.33.

(2) Using hours of non-emergency runtime is acceptable if maximum fuel consumption is assumed.

19. Permittee shall calculate the CO_{2e} emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (78 FR 71904).

20. In lieu of the requirements of Special Condition Nos. 18.B(1), B(2), and C(1), for a given turbine or TO the permit holder may install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for CO_2 emission measurements. The CEMS shall meet the specifications and test procedures for CO_2 emission monitoring system at stationary sources, 40 CFR Part 98; or meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 3 and follow the monitoring requirements of 40 CFR § 60.13. The permit holder shall also measure volumetric flow and install a data acquisition and handling system to record all measurements.

Recordkeeping

21. The following records must be kept at the plant for the life of the permit. All records required in this permit must be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:

A. A copy of this permit.

B. Permit application dated 12/12/2014, and subsequent representations submitted to the TCEQ.

C. Any turbine or compressor emissions-related written maintenance plans pursuant to Special Condition No. 2.A.

D. A complete copy of the testing reports and records of performance testing completed pursuant to Special Condition No. 10.

22. The following information must be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:

A. For each emergency engine and generators (EPNs GEN1 through Gen-4, FWPUMP1, and FWPUMP2) hours of operation on a monthly and rolling 12-month basis to show compliance with Special Condition Nos. 3 and 4.

B. For each turbine (EPNs TRB1 through TRB18)

(1) Monthly and rolling 12-month CO_2 and CO_2e emissions data in tons

(2) Monthly and rolling 12-month fuel flow data

(3) Dates and activity performed for emissions related inspections and maintenance pursuant to Special Condition No. 2.A.

C. For each EPNs TO-1 through TO-3

(1) Hourly combustion chamber outlet temperature

(2) Hourly exhaust oxygen content

(3) Monthly, and rolling 12-month fuel consumption

(4) Monthly, and rolling 12-month vent flow from each Acid Gas Removal Unit

(5) Results of CO_2 sampling required by Special Condition No.13

(6) Dates of visual inspections and any corrective action required by Special Condition No.14

D. For each flare system (EPNs WTDYFLR1, WTDYFLR2, and MRNFLR) ,records of date and time of pilot flame loss.

E. For records of MSS:

(1) Date, time and duration of the event; and

(2) Emissions from the event.

F. Records required by the monitoring program in Special Condition No. 15.

Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPSDTX123

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are covered by this permit. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
TRB1 – TRB18	Turbine 1 – Turbine 18 Emission rates are per turbine	CO_2 (5)	146,601
		CH_4 (5)	2.8
		N_2O (5)	0.28
		CO_{2e}	146,754
TO-1	Thermal Oxidizer	CO_2 (5)	196,438
		CH_4 (5)	0.55
		N_2O (5)	0.02
		CO_{2e}	196,458
TO-2	Thermal Oxidizer	CO_2 (5)	196,438
		CH_4 (5)	0.55
		N_2O (5)	0.02
		CO_{2e}	196,458
TO-3	Thermal Oxidizer	CO_2 (5)	196,438
		CH_4 (5)	0.55
		N_2O (5)	0.02
		CO_{2e}	196,458
WTDYFLR1	Wet/Dry Gas Flare 1	CO_2 (5)	66,670
		CH_4 (5)	184
		N_2O (5)	0.11
		CO_{2e}	71,303

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
WTDYFLR2	Wet/Dry Gas Flare 2	CO_2 (5)	66,670
		CH_4 (5)	184
		N_2O (5)	0.11
		CO_{2e}	71,303
MRNFLR	Marine Flare	CO_2 (5)	25,932
		CH_4 (5)	107
		N_2O (5)	0.01
		CO_{2e}	28,610
GEN1	Standby Generator 1	CO_2 (5)	35
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	35
GEN2	Standby Generator 2	CO_2 (5)	35
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	35
GEN3	Standby Generator 3	CO_2 (5)	35
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	35
GEN4	Standby Generator 4	CO_2 (5)	35
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	35

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
FWPUMP1	Diesel Firewater Pump 1	CO_2 (5)	13
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	13
FWPUMP2	Diesel Firewater Pump 2	CO_2 (5)	13
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	13
FWPUMP3	Diesel Firewater Pump 3	CO_2 (5)	13
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_{2e}	13
BOG	BOG Compressor Venting	CH_4 (5)	0.75
		CO_{2e} (6)	19
FUG	Fugitive Emissions	CO_2 (5)	0.22
		CH_4 (5)	433
		CO_{2e} (6)	10,825

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) CO_2 - carbon dioxide
N_2O - nitrous oxide
CH_4 - methane
CO_2e - carbon dioxide equivalents based on the following Global Warming Potentials (11/2014): CO2 (x), N_2O (298), CH_4(25), SF_6 (22,800), HFC (various), PFC (various)
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
(5) Emission rate is given for informational purposes only and does not constitute enforceable limit.
(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: February 27, 2015